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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,997	02/08/2006	Ping Ding	60295-USA2	9442

7590 12/22/2006
John M. Sheehan
FMC Corporation
1735 Market Street
Philadelphia, PA 19103

EXAMINER

CHU, YONG LIANG

ART UNIT	PAPER NUMBER
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1626

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/22/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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Office Action Summary	Application No. 10/538,997	Applicant(s) DING ET AL.	
	Examiner Yong Chu	Art Unit 1626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-74 is/are pending in the application.
- 4a) Of the above claim(s) 3-4, 10-15, 18-20, 25-30, 33-35, 40-74 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,6,7,16,17,21,22,31,32,36 and 37 is/are rejected.
- 7) ☒ Claim(s) 1,2,6-9, 16,17, 21-24, 31,32, and 36-39 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Claims 1-74 are pending in this application.

Priority

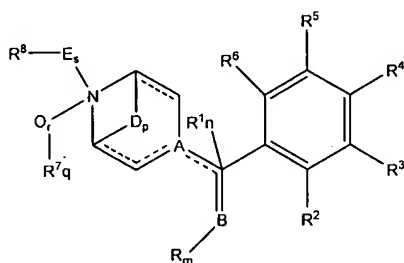
This application is a 371 of PCT/US03/39046, filed on 8 December 2002.

Acknowledgement is made of Applicant's claim for U.S. Provisional Patent Application 60/434,718 and 60/495,059 under 35 U.S.C. §119(e), filed on 18 December 2002, and 14 August 2003, respectively.

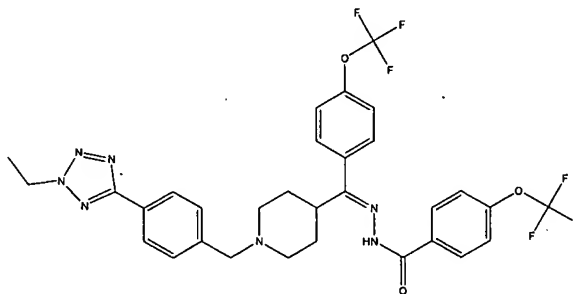
Response to Restriction

The response to the restriction request with election of Group I directed to

products of formula (I),



(e.g. claims 1-45) and election of



species of Compound 149

as shown in Table 1

of the specification, *with traverse* by Applicants' representative, Attorney Cynthia M.

Bouchez dated on 27 October 2006, has been considered. A further clarification statement on the definition of Compound 149 dated on 4 December 2006 as part of telephonic interview process has also been considered.

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Applicant's arguments on the ground that Group I as product claims should be examined with Group II as product claims have been fully considered but they are not persuasive, because there are numerous variables in the formula (I), and the core structure with special technical feature, which holds the unity of the invention, does not exist. It is also found the core structure of the claimed compounds in claim 1 does not have a special technical feature to overcome the contribution of compounds disclosed in prior art by Kuroyan et al. *Armianskii Khimicheskii Zhurnal* (1983), 36(9), 614-17. Therefore, the restriction requirement is indeed proper, and maintained.

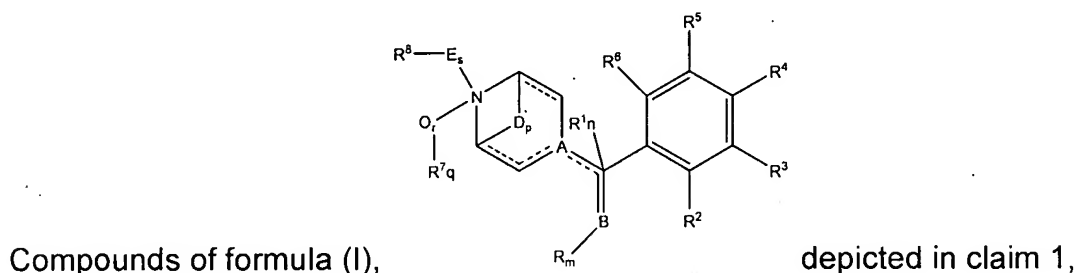
However, rejoinder of product claims with process claims commensurate in scope with the allowed product claims will occur following a finding that the product claims are allowable. Until, such time, a restriction between product claims and process claims is deemed proper. Additionally, in order to retain the right to rejoinder in accordance with the above policy, Applicant is advised that the process claims should be amended during prosecution to maintain either dependency on the product claims or to otherwise include the limitations of the product claims. ***Failure to do so may result in a loss of the right to rejoinder.***

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Status of the Claims

Claims 46-74 are further withdrawn from further consideration by the Examiner as being drawn to non-elected inventions due to restriction requirement. The withdrawn subject matter is patentably distinct from the elected subject matter as it differs in structure and element and would require separate search considerations. In addition, a reference that anticipates one invention would not render obvious the other invention.

The scope of the invention of the elected subject matter is as follows:



wherein:

m is 1 and **n** is 0; **q** is 0; **r** is 0; **s** is 1; **p** is 0;

A is $-\text{CH}$ forming piperidine;

B is NNR^{15*} and $\text{NNR}^{15}\text{C}(=\text{O})^*$, wherein R^{15} is H or alkyl, where the asterisk denotes attachment to **R**;

R is a substituted phenyl, wherein substituents R^{17} , R^{18} , R^{19} , R^{20} , and R^{21} are defined in claim 1;

R^8 is a substituted phenyl, wherein substituents R^{22} , R^{23} , R^{24} , R^{25} , and R^{26} are defined in claim 1;

E is $-(\text{CR}^{27}\text{R}^{28})_x-(\text{CR}^{29}\text{R}^{30})_y-$, wherein **x** is 1, and **y** is 0, and R^{27} and R^{28} are hydrogen as defined in claim 1; and the remaining substituents are defined as in claim 1.

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As a result of the election and the corresponding scope of the invention identified supra, claims 3-5, 10-15, 18-20, 25-30, 33-35, 40-45, and the remaining subject matter of claims 1-2, 6-9, 16-17, 21-24, 31-32, and 36-39 are withdrawn from further consideration pursuant to 37 CFR 1.142 (b) as being drawn to non-elected inventions.

Therefore, claims 1-2, 6-9, 16-17, 21-24, 31-32, and 36-39 are ready for examination.

Specification

The first paragraph of the specification does not contain continuing data to which the instant specification claims benefit from. An appropriate amendment is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 31-32, and 36-40 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "second compounds" lacks of definition and renders indefinite.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

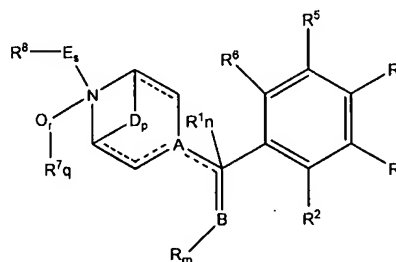
A person shall be entitled to a patent unless

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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Claims 1, 2, 6, 7, 16, 17, 21, 22, 31, 32, 36, and 37 are rejected under 35 U.S.C. 102 (b) as being anticipated by Kuroyan et al., *Armianskii Khimicheskii Zhurnal* (1983), 36(9), 614-17.

Applicants instantly elected invention of claims 1, 2, 6, 7, 16, 17, 21, 22, 31, 32,



36, and 37 teaches compounds of formula I, depicted in claim 1, and their insecticidal composition thereof wherein:

m is 1 and **n** is 0; **q** is 0; **r** is 0; **s** is 1; **p** is 0;

A is $-\text{CH}$ forming piperidine;

B is NNR^{15*} and $\text{NNR}^{15}\text{C}(=\text{O})^*$, wherein R^{15} is H or alkyl, where the asterisk denotes attachment to **R**;

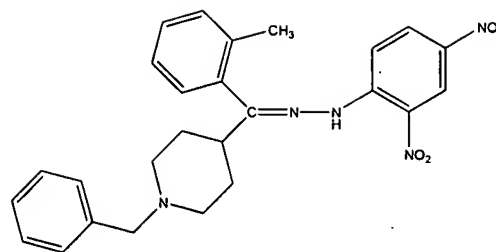
R is a substituted phenyl, wherein substituents R^{17} , R^{18} , R^{19} , R^{20} , and R^{21} are defined in claim 1;

R^8 is a substituted phenyl, wherein substituents R^{22} , R^{23} , R^{24} , R^{25} , and R^{26} are defined in claim 1;

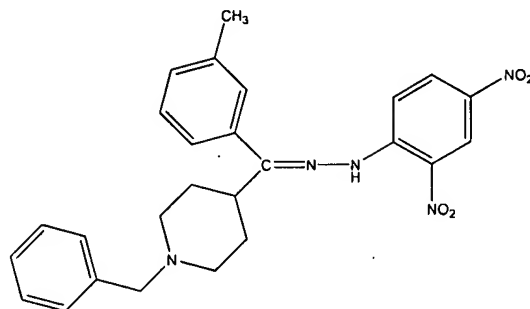
E is $-(\text{CR}^{27}\text{R}^{28})_x-(\text{CR}^{29}\text{R}^{30})_y-$, wherein **x** is 1, and **y** is 0, and R^{27} and R^{28} are hydrogen.

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Kuroyan et al. teach specific compounds

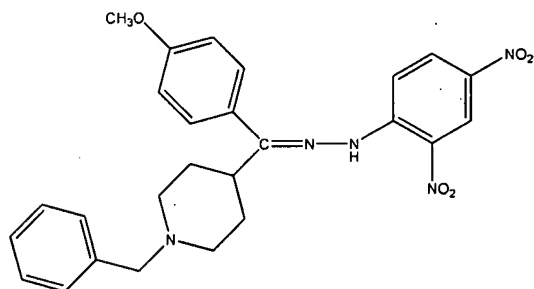


(CAS RN 88796-22-9),



(CAS RN 88796-23-0),

and



(CAS RN 88796-25-2), read on the instant

claims 1, 2, 6, and 7, wherein:

m is 1 and **n** is 0; **q** is 0; **r** is 0; **s** is 1; **p** is 0;**A** is $-\text{CH}$ forming piperidine;**B** is NNR^{15*} , wherein R^{15} is H or alkyl, where the asterisk denotes attachment to **R**;**R** is a substituted phenyl, wherein substituents R^{17} , R^{18} , and R^{20} are hydrogen, and R^{19} , and R^{21} are nitro as defined in claim 1; R^8 is a substituted phenyl, wherein substituents R^{22} , R^{23} , R^{24} , R^{25} , and R^{26} are hydrogen as defined in claim 1;**E** is $-(\text{CR}^{27}\text{R}^{28})_x-(\text{CR}^{29}\text{R}^{30})_y-$, wherein **x** is 1, and **y** is 0, and R^{27} and R^{28} are hydrogen

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Because the compound claims 1, 2, 6, and 7 are rejected, the composition claims 21, 22, 31, 32, 36, and 37 of using the claimed compounds are also rejected.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

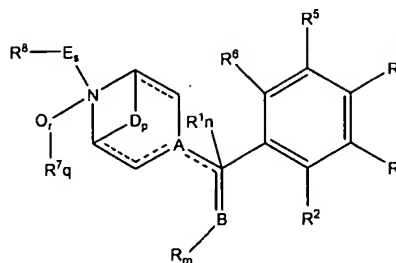
The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 2, 6, 7, 16, 17, 21, 22, 36, and 37 are rejected under 35 U.S.C. 103 (a) as unpatentable over Kuroyan *et al.*, by Kuroyan et al., *Armianskii Khimicheskii Zhurnal* (1983), 36(9), 614-17.

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Applicants instantly elected invention of claims 1, 2, 6, 7, 16, 17, 21, 22, 31, 32,



36, and 37 teaches compounds of formula I

, depicted in

claim 1, and their insecticidal composition thereof wherein:

m is 1 and **n** is 0; **q** is 0; **r** is 0; **s** is 1; **p** is 0;

A is -CH forming piperidine;

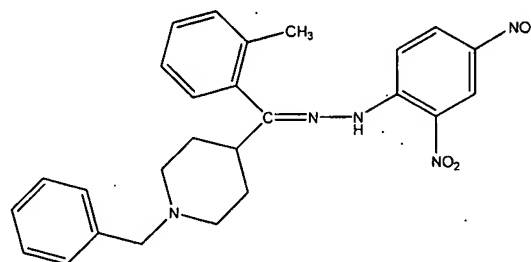
B is NNR^{15*} and $\text{NNR}^{15}\text{C}(=\text{O})^*$, wherein R^{15} is H or alkyl, where the asterisk denotes attachment to **R**;

R is a substituted phenyl, wherein substituents R^{17} , R^{18} , R^{19} , R^{20} , and R^{21} are defined in claim 1;

R^8 is a substituted phenyl, wherein substituents R^{22} , R^{23} , R^{24} , R^{25} , and R^{26} are defined in claim 1;

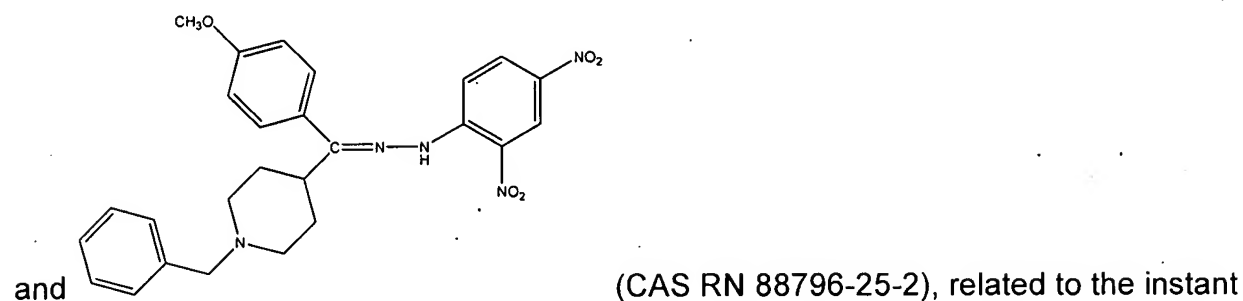
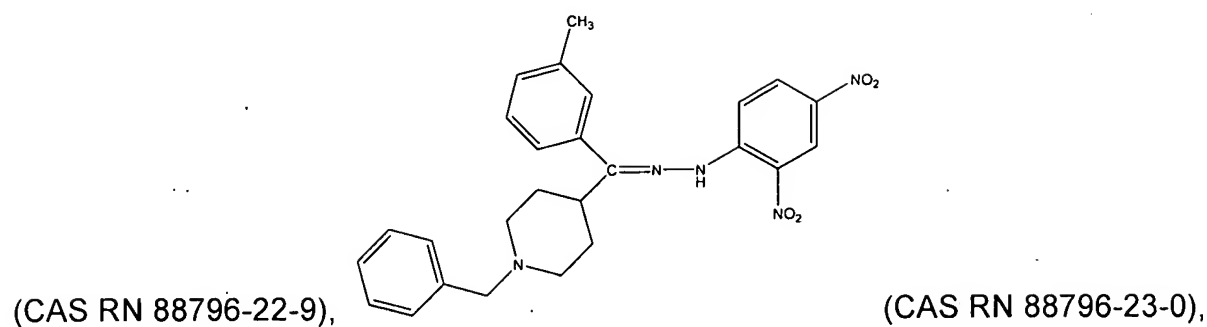
E is $-(\text{CR}^{27}\text{R}^{28})_x-(\text{CR}^{29}\text{R}^{30})_y-$, wherein **x** is 1, and **y** is 0, and R^{27} and R^{28} are hydrogen.

Determination of the scope and content of the prior art (MPEP §2141.01)



Kuroyan et al. teach specific compounds

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claims 1, 2, 6, and 7, wherein:

m is 1 and **n** is 0; **q** is 0; **r** is 0; **s** is 1; **p** is 0;**A** is -CH forming piperidine;**B** is NNR^{15*} , wherein R^{15} is H or alkyl, where the asterisk denotes attachment to **R**;**R** is a substituted phenyl, wherein substituents R^{17} , R^{18} , and R^{20} are hydrogen, and R^{19} , and R^{21} are nitro as defined in claim 1; R^8 is a substituted phenyl, wherein substituents R^{22} , R^{23} , R^{24} , R^{25} , and R^{26} are hydrogen as defined in claim 1;**E** is $-(\text{CR}^{27}\text{R}^{28})_x-(\text{CR}^{29}\text{R}^{30})_y-$, wherein **x** is 1, and **y** is 0, and R^{27} and R^{28} are hydrogen.

Kuroyan et al. do not teach the compounds in claim 1, wherein substituents R^{17} , R^{18} , and R^{20} are methyl groups or other analogs.

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Finding of prima facie obviousness--rational and motivation (MPEP §2142-2413)

One skilled in the art would have found the claimed compound prima facie obvious because it is well established that the substitution of methyl for hydrogen on a known compound is not a patentable modification absent unexpected or unobvious results. In re Wood, 199 U.S.P.Q. 137 (C.C.P.A. 1978) and In re Lahr, 137 U.S.P.Q. 548, 549 (C.C.P.A. 1963). The motivation to make the claimed compounds derives from the expectation that structurally similar compounds would possess similar activity.

Because the compound claims 1, 2, 6, and 7 are rejected, the composition claims 21, 22, 31, 32, 36, and 37 of using the claimed compounds are also rejected.

Claim Objections

Claims 1-2, 6-8, 16-17, 21-24, 31-32, and 36-39 are objected to for containing elected and non-elected subject matter. The elected subject matter has been identified supra.

Conclusion

Claims 1, 2, 6, 7, 16, 17, 21, 22, 31, 32, 36, and 37 are rejected.

Claims 1-2, 6-9, 16-17, 21-24, 31-32, and 36-39 are objected.


Telephone Inquiry

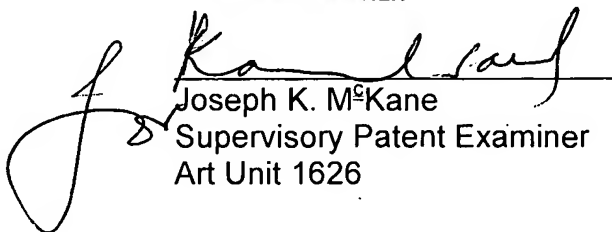
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yong Chu whose telephone number is 571-272-5759. The examiner can normally be reached on 7:00 am - 3:30 pm EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph K. McKane can be reached on 571-272-0699. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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